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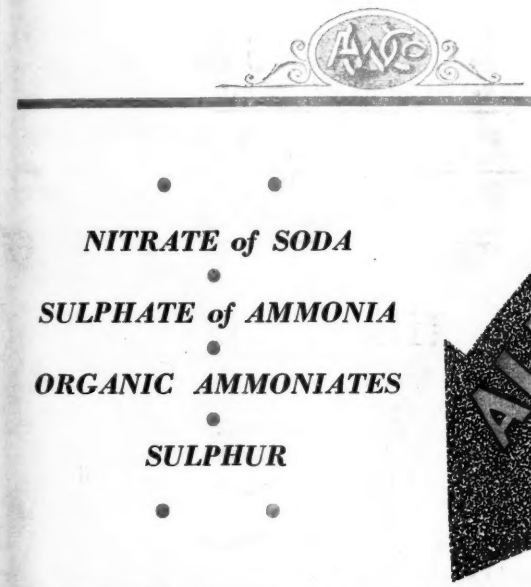
# The American Fertilizer

Vol. 96 JUNE 20, 1942 No. 13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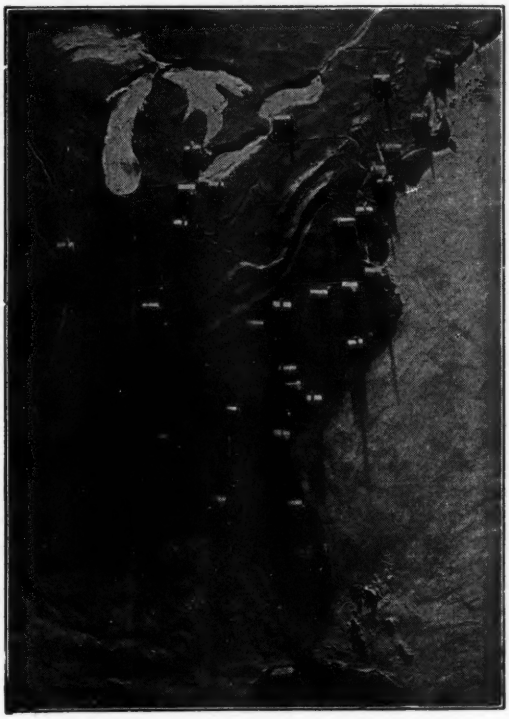

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Baltimore, Md.
Buffalo, N. Y.
Carteret, N. J.
Cayce, S. C.
Chambly Canton, Quebec, Can.
Charleston, S. C.
Cincinnati, Ohio
Cleveland, Ohio
Detroit, Mich.
East Point, Ga.
East St. Louis, Ill.
Greensboro, N. C.
Havana, Cuba
Henderson, N. C.
Montgomery, Ala.
Norfolk, Va.
No. Weymouth, Mass.
Pensacola, Fla.
Pierce, Fla.
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*See Page 23*

...THE...

# AMERICAN FERTILIZER

"That man is a benefactor to his race who makes two blades of grass to grow where but one grew before."

Vol. 96 JUNE 20, 1942 No. 13

# A Successful Convention

**Eighteenth Annual Meeting of The National Fertilizer Association Discusses War Problems. John A. Miller Re-elected President.**

The 18th Annual Convention of The National Fertilizer Association, which was held at the Homestead, Hot Springs, Va., on June 18th, 19th, and 20th, was attended by over 350 persons. While the attendance was smaller than in previous years, due to war conditions, transportation, etc., the industry was well represented by its leading executives and the actions of the Convention show that the industry is facing the problems of wartime production with a united determination.

At the close of the meetings, the Board of Directors elected the following officers to serve for the year 1942-1943: President, John A. Miller, Price Chemical Co., Louisville, Ky.; Vice-President, H. B. Baylor, International Minerals and Chemical Corp., Chicago, Ill.; Executive Secretary and Treasurer, Charles J. Brand, Washington, D. C.

### June 19th Session

In opening the convention on June 19th, President, John A. Miller said: "The crop goals that have been set by the U. S. Department of Agriculture call for the greatest farm production in our history, particularly of animal fats and oils, milk and eggs, canned vegetables, and oil-bearing seeds. These goals cannot be attained," he explained, "unless the very best farm practices prevail throughout the country. Among these practices and one of the most important is the proper use of the products of our industry, for it is estimated that 15 per cent of our total crop production is the direct result of fertilizer use and that we would have to increase our crop area by 30,000,000 acres if we had no fertilizers.

"Consumption of fertilizers during 1941 totaled 9,264,000 tons, the largest consumption in all our history," he said. "Production of superphosphate and of potash salts were at peak levels, but there was a considerable shortage of nitrogen materials for direct use this spring. While the prospects for next season's supplies are good, with the exception of the uncertainty in the nitrogen situation, our industry must assist the Government in every way possible to see that each pound of plant food is used to the best advantage of the country as a whole.

"We have tried in every possible way," Mr. Miller said, "to assist governmental agencies in the many phases of war emergency work that relate to our industry. At the request of the war agencies the Association arranges meetings and conferences and disseminates information to all fertilizer manufacturers without regard to membership in the Association."

Dr. Clarence Poe, president and editor of The Progressive Farmer, a South-wide farm magazine, was the next speaker. He said: "While service and not exploitation would seem to be the world's keynote in the years just ahead, I do not wish to see Government take over all the functions of private business. I fear that without competition and the profit motive retrogression and dry rot would set in in many fields of production and industry.

"The best type of fertilizer men of today is indeed a co-worker with the agricultural colleges, the United States Department of Agriculture, and the experiment stations of the South and of America," said Dr. Poe. "He can not only make two blades of grass or two ears of corn grow where one grew before, but he can feel that he is promoting the achievement of this result by providing for each crop and each soil just the sort of plantfood which

will give maximum production at minimum cost. He can take pride in the fact that through the efficiency and economy of the fertilizer industry he could sell fertilizer last year at 96 per cent of prewar prices and this year at 111 per cent, when commodities generally averaged much higher than 96 last year and 111 this year."

Dr. Poe pointed out that "In the past, the Southern farmer has received only about $20 from livestock as compared to $100 from crops, while in the richest agricultural States the income from each of these sources is about the same. Now in many sections pastures, feed crops, and legumes are providing better markets for fertilizers than was ever provided by

H. B. RAYLOR
Vice-President of the National Fertilizer Association
1942-1943

the tenant on eroded land raising only cotton. While producing cotton alone may give the farmer a living, cotton plus livestock may give him prosperity."

"Last year's fertilizer consumption was the largest in our history," said Charles J. Brand, executive secretary and treasurer of the Association. "The average plantfood content of mixed fertilizer in 1925 was only 16 per cent—now it is over 20 per cent. In fact, if this improvement had not been made it would have been necessary to handle, ship, and apply 1,430,000 more tons of fertilizer and fertilizer materials in order to get as much plantfood on to American farms as were used in 1941, or 11,000,000 tons instead of the 9,264,000 tons actually used.

"Because of the work that has been done by our Association during the past 17 years we are now able to give the Government agencies that are dealing with war emergency problems, information concerning our industry and the use of fertilizers which we hope is helpful not only to the Government but to farmers and to the entire production program."

T. E. Milliman, Chief of the Agricultural Chemicals Section of the War Production Board stated that the interests of farmers can be served best in so far as the distribution of needed crop fertilizers is concerned, by full cooperation between the various agencies of Government, the State Land Grant Colleges and the fertilizer industry. He added that a series of conferences is now being held in all fertilizer-using regions to determine the fertilizer needs of crops and to reduce the number of grades of fertilizer to be sold during the war period to the minimum number needed.

**June 20th Session**

"Progress in the development of scientific aids to the economic production of crops has been rapid since the last war," said Prof. Robert M. Salter, chief of the Bureau of Plant Industry, U. S. Department of Agriculture, in addressing the second day's session. "Plant breeders have produced varieties and strains of grains, forage and fiber crops, vegetables, and fruits that are higher yielding and superior in quality than the crops that were grown only a few years ago.

"As the result of a research program that has been carried on for more than 20 years and which is now nationwide, machinery for planting and fertilizing most every crop has been improved, and the increased yields obtained through better methods of applying fertilizers are worth many millions of dollars annually.

"Through the cooperation of the research and extension departments of the State Agricultural Colleges, the United States Department of Agriculture, and the fertilizer industry the plantfood content of fertilizers has been increased and the grades of fertilizer which are recommended by agronomists are now widely used in nearly every State.

"Agronomists are now able to diagnose crop and soil needs much more accurately than only a short generation ago and because of this fertilizers are being used more intelligently than ever before. Moreover, we can determine rather accurately where and on what crops

fertilizers are most needed in order to meet our war crop goals. Also because of our efficient production of crops of better quality we are able to feed our livestock and our people more adequately than in any previous period in our history."

Dr. Dexter M. Keezer, Deputy Administrator, OPA, gave an excellent address emphasizing the necessity of price control if we are to avoid inflation and its terrible consequences. He pointed out the enormous saving to the Government itself in its conduct of the war through holding prices down to reasonable levels and that farmers should be especially interested in controlling prices since they have suffered even more than other groups during previous inflationary and recovery periods.

Howard R. Tolley, Assistant Administrator and Director of the Food and Apparel Division, OPA, was scheduled to address the convention on "The Agricultural Goals—Our Means of Reaching them," but was unable to do so because of a death in his family. George Cushman, Chief, Fertilizers & Insecticides Division, OPA, was present and was introduced to the convention.

Edward J. Buhner, Chief, Operations, Property Carriers, ODT, spoke on "Truck Transportation in the War Emergency." He emphasized the great need for eliminating unnecessary mileage and for the conservation of rubber in every possible way.

#### The Association Dinner

At the Annual Association dinner on June 19th, Dr. Edward C. Elliott, President of Purdue University, delivered an inspiring address on "The American Way and the American Waywardness." At the close of his address, Dr. Elliott was given such an ovation that he was persuaded to return to the platform and develop his theme further for several minutes.

#### Election of Directors

The following Directors-at-Large were nominated and elected for a term ending in June, 1945: C. T. Brown, Federal Chemical Co., Louisville, Ky.; John A. Miller, Price Chemical Co., Louisville, Ky.; H. S. Parsons, Naco Fertilizer Co., New York, N. Y.; L. W. Rowell, Swift & Co. Fertilizer Works, Chicago, Ill. Directors nominated by the Districts and elected for the full three-year term were: District 1, E. S. Russell, Old Deerfield Fertilizer Co., South Deerfield, Mass.; District 4, Lionel Weil, Weil's Fertilizer Works, Goldsboro, N. C.; District 5, Geo. W. Gage, Anderson Fertilizer Co., Anderson, S. C.; District 8, James W. Dean, Knoxville Fertilizer Co., Knoxville, Tenn.; District 9, N. E. Harman, Meridian Fertilizer Factory, Hattiesburg, Miss.; District 10, W. B. Norris, The Norris Fertilizer Co., Rushville, Ind. W. H. Gordon, Chamberlin & Barclay, Cranbury, N. J., was elected to fill a vacancy in District 2 expiring in June, 1943. M. A. Caine, Tennessee Corp., New York, N. Y., was elected to fill a vacancy in District 2 expiring in June, 1944. John F. Blain, The Chas. H. Lilly Co., Seattle, Wash., was elected to fill a vacancy in District 11 expiring in 1944.

## Meeting of Fertilizer Industry Advisory Committee

A meeting of the Fertilizer Industry Advisory Committee was held in Washington on June 11th. T. E. Milliman, WPB, presided.

WPB pointed out that the situation with respect to supplies of agricultural nitrogen for next year necessarily is uncertain and subject to constant changes. No definite and certain statement can be made as to the amount of nitrogen that will be available. The chief element of uncertainty relates to the importation of nitrate of soda from Chile, which in turn depends on factors that cannot be accurately forecast at any given time. It was stated that it will probably be some months before anyone can speak definitely as to how much oil seed meals will be available, as a result of increase production, as a source of nitrogen for fertilizer. The supply is uncertain, the meals will not be available until later in the season, and it will be the purpose of U.S.D.A. primarily to put such meals into the usual channels of animal feed. U.S.D.A. is on the job at all times, urging in its contacts with other Government agencies the necessity of fertilizer nitrogen—particularly topdresser, as to which the supply of materials is more uncertain—for the production of crops normally grown and the war production goals. The interest of farmers' organizations in adequate supplies of agricultural nitrogen was pointed out. Arrangements were made for the appointment of small committees including industry representation to confer with the Secretary of Agriculture and with Dr. William F. Elliott, economist for the Stockpile and Shipping Branch of WPB, regarding supplies of fertilizer nitrogen.

A report from the Nitrogen Subcommittee, which met on May 18th, was presented. It

(Continued on page 22)

# Legumes Will Furnish Needed Nitrogen*

By R. Y. BAILEY

*Chief, Agronomy Division, Southeastern Region, Soil Conservation Service, Spartanburg, South Carolina*

PRODUCTION for war needs is probably the most generally discussed topic in the country today. Although food and fiber crops are not as spectacular as the planes, tanks, and guns that are coming from the assembly lines, they are just as essential to the successful prosecution of the war.

One of the most important of the problems in production is that of providing adequate supplies of nitrogen to meet the needs of both industry and agriculture. A shortage of nitrogenous fertilizer will be particularly serious in the South where most of the soils are deficient in nitrogen. Since most of the commercial supply is likely to be needed in the manufacture of munitions, it will probably be necessary for a large part of the nitrogen required in agriculture to be derived from legumes.

### Legumes for Nitrogen

Fortunately, state agricultural experiment stations have studied the possibilities of growing legumes in cropping systems to supply nitrogen for the production of other crops. Information derived from these studies is of unusual importance to the Nation as a whole at this time. It is entirely probable that through the application of the findings of these institutions Southern farmers may be able to produce adequate supplies of certain vital crops, of which there might otherwise be serious shortages.

Results of experiments with legumes have shown that it is possible to produce large yields of other crops with nitrogen from legumes grown in rotations and plowed into the soil. Because of the abundance and relatively low price of commercial sources of nitrogen, farmers have not made as general use of legumes as they are likely to find it necessary to do during the war period.

Much emphasis has been placed on experiments with winter legumes such as the vetches, winter peas, and clovers, either alone or in combination with small grains and grasses. Yields of crops following winter legumes turned under have compared favorably with yields where liberal applications of commercial sources of nitrogen or barnyard manure have been used.

For example, on Tifton sandy loam at the Georgia Coastal Plain Experiment Station a 9-year average yield of 740 pounds of seed cotton per acre was made without nitrogen, compared with 1,316, 1,206 and 1,168 pounds following crops of Austrian winter peas, Monantha vetch, and hairy vetch, respectively.

At Knoxville, Tennessee, corn grown on Cumberland loam, without legumes in the cropping system, made a 4-year average yield of 30.8 bushels per acre, compared with 43.4 bushels where crimson clover was turned under. Many other similar examples could be cited.

In addition to the direct benefit derived from turning under winter legumes, it has been shown by results at the Alabama and the Louisiana Agricultural Experiment Stations that there is a residual effect the second and third years after winter legumes are turned under. On light sandy loam at St. Joseph. Louisiana, the residue from three crops of hairy vetch resulted in an increase of 195 and 399 pounds of seed cotton the second and third years, respectively, after vetch was turned under.

On Norfolk sandy loam at Auburn, Alabama, vetch was turned under about March 25, April 5, and April 15 during the three years 1925 to 1927, inclusive. The average yields of green vetch at the three dates of turning were 5,259, 8,849 and 12,072 pounds per acre. Corn was planted about 10 days after vetch was turned under and a companion plot planted on the same day was fertilized with 200 pounds of nitrate of soda per acre. In 1928, Monantha vetch was killed by cold, and as a result the yields that year represented a comparison of the residue from the three previous crops of vetch that were turned at early, medium, and late dates and the 200 pounds of nitrate of soda that were applied on each companion plot. The acre yields on the vetch plots were 16, 28.9, and 34.6 bushels, compared with 22.6, 22, and 25 bushels on companion plots where 200 pounds of nitrate of soda per acre were applied. The average yield of the four check plots that received no nitrogen was 9.5 bushels per acre.

* Reprinted from "Better Crops with Plant Food," May, 1942.

The annual summer legumes have not been emphasized as much as have the winter legumes. Considerable work has been done with such summer annuals as cowpeas, soybeans, and crotalaria as interplanted crops with corn. Variations in dates, rates, and methods of seeding, and in seasonal conditions have resulted in such wide differences in the growth of interplanted summer legumes that the influence on yields of succeeding crops has been far less impressive than the effect of winter legumes. Where large yields of summer legumes have been turned under, yields of succeeding crops have been substantially increased.

Most of the summer legumes seeded after small grain crops have been considered as forage rather than soil-improving crops. As a result, the stubble of summer legumes has been returned to the soil, whereas, it has been common practice to turn the entire crop of many of the winter legumes under to supply nitrogen for succeeding crops.

Crotalaria is a summer legume that cannot be used for hay and is, therefore, returned to the soil. Crotalaria has proved very effective as a soil-improving crop in Florida, in the sandhill section of the Carolinas, and on the sandy soils in the Coastal Plain section of other Southern states. It seems to make more satisfactory growth than most other legumes when interplanted with corn. It makes the major portion of its growth in the fall after corn matures. It is a good seed producer and volunteers for several years if a crop is produced and left on the land. Crotalaria has grown well when seeded on small grain in February or March. It is particularly promising on sandy soils where lespedeza sometimes fails during periods of spring drought when the grain crop is drawing heavily on soil moisture, or as a result of heavy infestations of nematodes. Crotalaria spectabilis is one of the most completely nematode-resistant crops grown in the Coastal Plain.

**Lespedeza Deserves Attention**

Annual lespedeza is the ugly duckling of the South. This crop has probably received less attention in research than any other legume of major importance. Published results of experiments with lespedeza as a soil-improving crop are extremely limited. Wherever lespedeza has been included in soil fertility experiments and treated as a soil-improving rather than as a hay crop, it has given remarkable increases in the yields of succeeding crops. In six trials at the North Carolina Station, there was more than a 100% increase in the yields of crops following lespedeza.

Miller reported in Farmers' Bulletin 1724 that an average yield of corn on six fields in North Carolina, Kentucky, and Tennessee was 19.3 bushels per acre where no lespedeza was grown. compared with 41.1 bushels following lespedeza. He also reported an average increase of 317 pounds of lint cotton per acre following lespedeza on 10 farms in Tennessee and North Carolina.

E. C. McArthur, Gaffney, South Carolina, won the State 5-Acre Cotton Contest in 1941 with an acre yield of 1,140 pounds of lint on a field where Kobe lespedeza had been grown in the rotation. Lespedeza was turned in the fall of 1940 and followed by a mixture of barley and Austrian winter peas, which was grazed off during the winter and early spring. The stubble of the winter crop was turned under and cotton was fertilized with 600 pounds of 4-8-6, 120 pounds of nitrate of soda, and 80 pounds of muriate of potash per acre. Although the cotton was fertilized liberally, Mr. McArthur does not believe he could have obtained such a large yield if the land had not been in a high state of fertility as a result of growing lespedeza in the rotation.

Probably the strongest point in favor of lespedeza is its ability to produce an abundance of seed that can be either harvested for planting additional acreage or left for reseeding on the land where lespedeza is to be left for an additional year.

Interest in perennial legumes has developed rather slowly in the South. Both kudzu and lespedeza sericea are hardy, deep-rooted perennials that have shown ability to grow on a wide variety of soils. They have grown well on poor, eroded soils, with less liming and fertilizer treatment than is required by most other legumes. Although information about their value for soil improvement is limited, results to date have been most encouraging.

A 3-year-old stand of kudzu at Auburn, Alabama, was plowed up in the spring of 1919 and followed by other crops. Yield of both sorghum hay and corn were approximately twice as large over a period of several years as were the yields on an adjoining plot where kudzu was not grown. There was a substantial increase in the yield of oats on the kudzu plot. Results of this experiment were published but did not create sufficient interest to stimulate the use of kudzu on an extensive scale.

Further studies that were made by the Soil Conservation Service in 1939 and cooperatively by the Alabama Experiment Station and the Soil Conservation Service in 1940 and

(Continued on page 24)

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PIONEER JOURNAL OF THE FERTILIZER INDUSTRY

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Vol. 96 JUNE 20, 1942 No. 13

## *Principal Articles in This Issue*

PAGE

A SUCCESSFUL CONVENTION ..... 5
Industry Defense Committee Meets ..... 7
LEGUMES WILL FURNISH NEEDED NITROGEN ..... 8
The Industry Enlists for the Duration.....10
April Superphosphate Production .....11
Grade Reduction Conferences Arranged...11
Midwest Grade Conference Held .....12
FERTILIZER MATERIALS MARKET:
New York .....13
Baltimore .....13
Atlanta .....15
Charleston .....15
Tennessee Phosphate .....16
Chicago .....16
Pasture Notes, No. 14 .....18
Chilean Nitrate Supply .....20
Grades for Middle Atlantic States Discussed 20

## The Industry Enlists for the Duration

At the closing session of the recent National Fertilizer Association Convention at Hot Springs, Va., the industry passed a resolution, stating its adherence to the policy of cooperation with the governmental agencies in a fair and adequate distribution of fertilizers, particularly nitrogen, to the farmers of this country. The text of the resolution is as follows:

"Whereas, because of war emergency conditions this country faces the possibility of a shortage of nitrogen for agricultural uses during the coming year; and

"Whereas, it is essential that the available supply of agricultural nitrogen shall be distributed in such way as to make the most effective contribution to the achievement of the crop production goals set by the United States Department of Agriculture and to do equity among farmers using fertilizer; and

"Whereas, interested governmental agencies, including the United States Department of Agriculture, the War Production Board, and the Office of Price Administration, after giving continued and intensive study to this situation, have formulated a program for accomplishing these purposes, which program involves selection of a list of suitable economic grades of mixed fertilizer for each State by its agricultural agencies and officials, in cooperation with Federal agencies and officials and the fertilizer industry; and

"Whereas, regional meetings of agronomists, State and Federal officials, members of the fertilizer industry, farm organizations, and farmers are to be held for discussion of the problems arising in the selection of such grades before final action is taken by governmental agencies;

"Now, therefore, be it resolved, That members of the fertilizer industry will accept the responsibility of distributing to farmers the grades of fertilizer that may be selected by governmental agencies, and pledge their wholehearted cooperation in carrying out the program and achieving its purposes, believing, as they do, that the program, built on constructive principles and effectively executed through existing distributing machinery, will obviate the necessity for rationing to farmers and result in the most efficient use of fertilizers in view of the national emergency."

## April Superphosphate Production

Production of superphosphate in April was 16 per cent greater than in April 1941, according to reports by acidulators to The National Fertilizer Association. This was the fourteenth consecutive month in which production was well above the corresponding month of the preceding year. In each month this year production was larger than in any corresponding month for which data are available.

*Superphosphate Production, Shipments, and Stocks for April and January-April, 1942 and 1941*

Expressed throughout in equivalent tons of 16% A.P.A. Based on reports by acidulators to The National Fertilizer Assn.†

| April | United States 1942 | United States 1941 |
|---|---|---|
| Stocks—First of month: | | |
| Bulk superphosphate | 792,062 | 921,272 |
| Base & mixed goods | 459,764 | 786,522 |
| Production: | | |
| Bulk superphosphate | 365,582 | 314,217 |
| Base & mixed goods | 16,037 | 15,896 |
| Total Production | 381,619 | 330,113 |
| Other Receipts* | 35,526 | 52,085 |
| Book Adjustments | —5,385 | —2,641 |
| Total Supply | 1,663,586 | 2,087,352 |
| Shipments: | | |
| Superphosphate: | | |
| To mixers | 216,539 | 216,619 |
| To other acidulators | 37,360 | 92,115 |
| To consumers, etc. | 214,910 | 304,500 |
| Total Superphosphate | 468,809 | 613,234 |
| Base & mixed goods | 337,133 | 452,957 |
| Total Shipments | 805,942 | 1,065,191 |
| Stocks—End of month: | | |
| Bulk superphosphate | 638,664 | 669,834 |
| Base & mixed goods | 218,980 | 351,327 |
| Total Stocks | 857,644 | 1,021,161 |

*Accumulated Production and Shipments for January-April*

| | United States 1942 | United States 1941 |
|---|---|---|
| Production: | | |
| Bulk superphosphate | 1,586,817 | 1,319,768 |
| Base & mixed goods | 51,693 | 46,821 |
| Total Production | 1,638,510 | 1,366,589 |
| Shipments: | | |
| Superphosphate: | | |
| To mixers | 696,549 | 607,235 |
| To other acidulators | 221,049 | 282,677 |
| To consumers, etc. | 587,403 | 578,747 |
| Total Superphosphate | 1,505,001 | 1,468,659 |
| Base & mixed goods | 1,078,852 | 842,275 |
| Total Shipments | 2,583,853 | 2,310,934 |

† Represents approximately 85% of total production.
* Includes inter-company transfers.
Base includes wet and/or dry base.

Shipments this year have also shown a marked rise. In the past year there has been a rather definite relationship between superphosphate shipments during the spring season and total fertilizer consumption during the year. Shipments in the January-April period of each year as reported to The National Fertilizer Association have been equivalent to nearly one-fourth of total fertilizer consumption in that year. A continuation of that relationship in 1942 would indicate total consumption of around 10,000,000 tons, including distribution by Government agencies. Other factors, brought on by war time conditions, might, of course, this year interfere with the normal relationship.

Stocks continue at a comparatively low level. Total stocks at the close of April were 16 per cent smaller than a year earlier. Stocks of bulk superphosphate were 31,170 tons less than on April 30, 1941, while stocks in base and mixed goods were 132,347 tons less.

### ALABAMA POSTPONES RAISING PLANT FOOD MINIMUM

Due to the uncertainty of future supplies of nitrates because of the war, the Alabama Board of Agriculture has deferred action on proposals to raise the plant food content of approved fertilizers, with a lowering of the percentage of filler. The board conferred with fertilizer company representatives on the proposal, advanced by Haygood Paterson, commissioner of agriculture and industries, as a method of reducing volume of fertilizer shipments while increasing the quality. The board added a new fertilizer formula, 0-14-10, suitable for pastures and peanuts, to the approved list.

## Grade Reduction Conferences Arranged

At the request of the USDA, WPB, and OPA the National Fertilizer Association is arranging two series of conferences to deal with the problem of grade reduction during the war. In each region there will be a conference of agronomists with representatives of the war agencies to survey the situation and to select a list of grades for each State. Immediately following the agronomic conferences there will be held in each region a joint conference with the industry, the farm groups, the agronomists, and the war agencies. Agronomic conferences have already been held for the Middle Atlantic and Middle Western States, and the general conferences in these two areas will be held shortly.

In the southwestern territory a grade conference had already been planned for July 14th at Shreveport, but Dr. G. S. Fraps of Texas, Commissioners Harry D. Wilson of Louisiana and Joe Hardin of Arkansas, and Chief Inspector Edward T. Davis of Oklahoma very kindly agreed to change the date of their meeting to July 8th so as to be able to meet with representatives of the war agencies and agronomists.

The general conferences will be open to all interested persons. The agronomic conferences will be attended by official agronomists, control officials, representatives of USDA, WPB, OPA, and NFA. The National Fertilizer Association will be represented by one or more members of the staff and by H. B. Siems, chairman of the Plantfood Research Committee, or by some other member of that committee designated by Dr. Siems.

*Grade conferences* (agronomists and representatives of Federal agencies).

July 8, for Lousiana, Arkansas, Texas, Oklahoma — Washington-Youree Hotel, Shreveport, La.

July 10, for Alabama, Mississippi, and Tennessee—Tutwiler Hotel, Birmingham, Ala.

July 13, for North Carolina, South Carolina, Georgia—Columbia Hotel, Columbia, S. C.

July 14, for Florida—George Washington Hotel, Jacksonville, Fla.

July 28, for New England—Parker House, Boston, Mass.

*Regional industry-farm meetings.*

June 24, Middle Atlantic States, Benjamin Franklin Hotel, Philadelphia.

June 25, Middle Western States, Palmer House, Chicago.

July 9, Southwestern States, Washington-Youree Hotel, Shreveport, La.

July 16, Southeastern States, Biltmore Hotel, Atlanta, Ga.

July 29, New England States, Parker House, Boston.

## MIDWEST GRADE CONFERENCE HELD

A conference of agronomists representing the Middle Western States was held at the Palmer House, Chicago, on June 12th. Those present representing the agricultural colleges were: Dr. Robert Yoder and Prof. Earl Jones, Ohio; Dr. C. E. Millar, Michigan; Prof. E. J. Kinney, Kentucky; Prof. A. T. Wiancko, Indiana; Dr. F. C. Bauer, Illinois; Prof. Emil Truog, Wisconsin; Dr. W. H. Pierre, Iowa; and Dr. Wm. A. Albrecht, Missouri. Representing the Federal agencies were: T. E. Milliman, WPB; Dr. F. W. Parker, OPA; Dr. T. R. Moyer, OAWR. Representing the National Fertilizer Association were: Nelson T. White, member, National Soil Improvement Committee; Dr. H. B. Siems. chairman, and Dr. G. N. Hoffer, member, Plantfood Research Committee; and H. R. Smalley, director, Soil Improvement Work.

The ratios and grades which have been recommended were revised, eliminating five grades and changing one slightly. The grades selected for the entire group of States are as follows: 0-12-12, 0-14-14, 0-20-20, 0-10-20, 0-8-24, 0-9-27, 0-14-7, 0-20-10, 2-12-6, 3-18-9, 4-24-12, 4-16-4, 2-8-16, 3-9-18, 3-12-12, 2-16-8, 4-10-6, and 10-6-4. As soon as possible each State will select from the above list the grades that will be recommended in that State. An exception to this is Kentucky, where fertilizer practice is more like the States to the south and east. The Agronomy Department of the University of Kentucky has been requested to select and recommend to the U.S.D.A. a list of grades for the State but to stay within the above list as far as possible.

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# FERTILIZER MATERIALS MARKET

## NEW YORK

**Sulphate of Ammonia Producers Behind in Deliveries. New Prices Still Awaited. Potash Prices Remain Unchanged. Nitrogenous Prices Lowered.**

*Exclusive Correspondence to "The American Fertilizer."*

NEW YORK, N. Y., June 17, 1942.

### Sulphate of Ammonia

Sulphate of ammonia deliveries are now continuing against old contracts and it is quite likely that some of the producers will be as much as 15 per cent behind in their deliveries at the end of this month. No price for sulphate of ammonia has as yet been issued for the new season, with some effort being made to get authorization to issue the contract price for the new season on the basis of the March spot price. This would mean an increase in the price of this commodity. No definite decision has been made as yet, with the odds being in favor that the price for the new season will be the same as the contract price for the season just past.

### Potash

Potash prices have now been released by several of the principal sellers, the price being the same as for the past season, f.o.b. producing point or port, same conditions as previous contracts, which means no absorption of the increased rates by sellers when deliveries are made on the basis of f.o.b. mines. It is expected that there will be a clause in the new potash contracts curtailing the resale of this commodity.

### Nitrate of Soda

Nitrate of soda continues scarce and is only being delivered against definite allocation.

### Fish Scrap

The price of this material remains unchanged.

### Nitrogenous Material

It is noted that several of the manufacturers reduced their prices, which may have been due to the telegram forwarded by OPA which was mentioned in our last issue.

## BALTIMORE

**Short Supply of Fertilizer Ammoniates Expected. Prices for Sulphate of Ammonia Expected Soon. No Carry-Over of Materials Reported.**

*Exclusive Correspondence to "The American Fertilizer."*

BALTIMORE, June 16, 1942.

There have not been any outstanding features in the market on fertilizer materials during the past two weeks. Many of the manufacturers are looking forward to annual convention of the National Fertilizer Association which will be held at Hot Springs, Va., this year.

*Ammoniates.*—The market on ammoniates continues firm, due to demand for feeding purposes, at previously quoted levels of about $6.60 per unit of nitrogen and 10 cents per unit of B.P.L. While the market on tankage for fertilizer is ruling somewhat easier at the present time, the present price takes it entirely out of the class of a fertilizer ingredient.

*Nitrogenous Material.*—With prospects of curtailed production, it looks as though this commodity will be short during the coming season, especially if any larger percentage of mineral and liquid ammonia is allocated to war purposes. The nominal market is $4.00 per unit of nitrogen, f.o.b. basis Baltimore.

*Sulphate of Ammonia.*—Up to the present time, there has not been any announcement of prices for another season, but these are now expected immediately after meeting of the National Fertilizer Convention this week. Due to higher freights and increased labor costs, the production is ruling somewhat higher, in consideration of which OPA may agree to slightly higher schedule. In the meantime, there are no offerings pressing on the market and no stocks carried over from the spring season.

*Nitrate of Soda.*—The present price schedule on this commodity expires the end of this month and, in view of difficulties of securing vessels to carry the South American product

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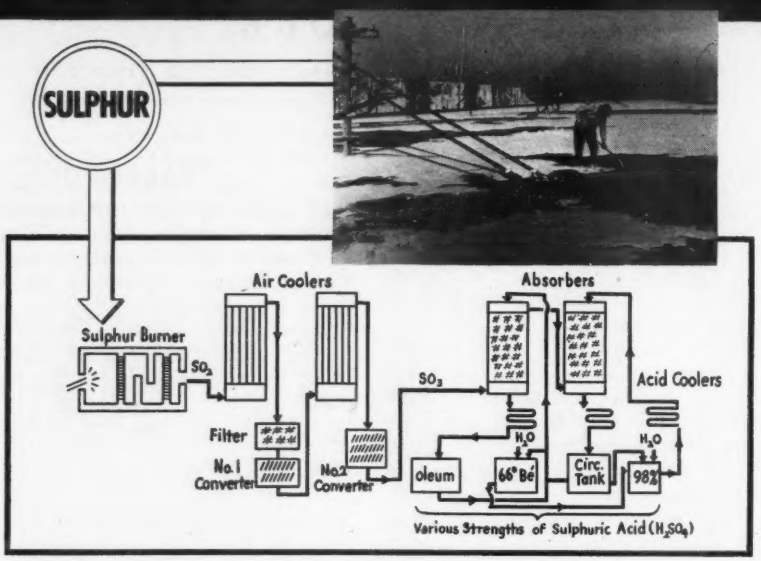


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and the demand for national defense purposes of the domestic production, prices may again only be fixed from month to month. It is anticipated that the tonnage available for fertilizer purposes will probably again be allocated. There are no stocks being carried over by manufacturers.

*Fish Meal.*—There are reports of further sales at selling price of $66.50 for scrap guaranteed 60 per cent, f.o.b. Chesapeake Bay fish factories, subject to catch and for shipment "if and when made." Dealers are still at a serious disadvantage on account of the narrow margin between f.o.b. price of scrap and selling price of meal, and up to the present time no headway has been made for any relief in this direction.

*Superphosphate.* — Producers continue to quote selling price of $9.60 per ton for run-of-pile, basis 16 per cent, and $10.10 for flat, 16 per cent grade, both in bulk, f.o.b. producers' works, Baltimore, but the cost of production likewise continues high, due to necessity of railing both sulphur and rock to Baltimore in comparison with vessel deliveries on a materially lower basis.

*Bone Meal.*—There is no change in the situation and the market continues nominal without business of any moment passing.

*Potash.*—Up to the present time only three producers have announced new schedule of prices, which are practically unchanged as compared with last year, except with advance in freight for buyers' account. Producers are not seeking any new business and only taking care of regular customers who they have been supplying in the past. No stocks of any consequence are being carried over.

*Bags.*—The burlap situation is unchanged and, due to the prevailing selling price being so much higher than paper bags, there will doubtless be considerably less burlap used for fertilizer next year than during the past season. It is reported that the acreage of jute in Calcutta has been curtailed 50 per cent due to inability to secure bottoms to ship finished burlap.

## ATLANTA

**Sulphate of Ammonia Prices Expected in July. Nitrogenous Offerings Limited.**

*Exclusive Correspondence to "The American Fertilizer."*

ATLANTA, June 16, 1942.

The nitrogen situation occupies the attention of the trade at the moment. The manufacturers and mixers are awaiting advice of their allocations of sulphate of ammonia. This, however, is not expected until sometime in July. No producer is quoting sulphate for the new season at present, conforming with request of WPB.

*Cottonseed Meal.*—The 8 per cent ammonia grade is now selling at $35.00, Memphis.

*Domestic Nitrogenous.* — Offerings at the moment are limited to a few carloads at $3.00 ($3.64½ per unit N), f.o.b. Western producing points, for June/July shipment.

## CHARLESTON

**Buyers Waiting for Sulphate of Ammonia Prices. Market on Nitrogenous Active for the Time Being.**

*Exclusive Correspondence to "The American Fertilizer."*

CHARLESTON, June 15, 1942.

It is rumored that the price of sulphate of ammonia will be the same for the coming season, and buyers are awaiting information on this material.

*Nitrogenous.* — Some quite considerable quantities have been sold for nearby shipment during June and July, and the producers have now generally withdrawn from the market.

*Manufacturers' Sales Agents* for **DOMESTIC**

**Sulphate of Ammonia**

Ammonia Liquor :: Anhydrous Ammonia

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*Blood.*—The present price of blood is impossible for fertilizer manufacturers, and only feed manufacturers have been buying recently. Chicago market is $5.75 per unit of ammonia ($6.99 per unit N).

*Fish Meal.*—The ground material is selling at $72.50 per ton, f.o.b. Chesapeake Bay.

*Cottonseed Meal.*—The prices on the 8 per cent grade are as follows: $32,50, Memphis; $36.00, Atlanta.

## TENNESSEE PHOSPHATE

**Rock Shipments Continue at Record Level. Additional Purchases of Phosphate Land Reported.**

*Exclusive Correspondence to "The American Fertilizer."*

COLUMBIA, TENN., June 15, 1942.

The dry spell of the past two weeks, during which most of the tobacco had been set, small grain cut and shocked and corn had all been planted, was broken by a real rain Saturday morning that put many creeks out of banks and was accompanied by widespread wind damage.

Shipments of phosphate rock continue at an unusual rate to all consuming channels, stocks are at lowest ebb, and all producers are behind on filling orders. Orders for future shipment are piling up so rapidly that it looks as if all capacity for rest of 1942 will be sold up soon.

Additional purchases of phosphate reserves are being made by several of the large producers who see, in the enormously increased production of this year and the past three years, early necessity for additional supply, just to take care of normal production, even if the expectation of continued increased demand after the war on account of such greatly increased phosphate consciousness of all farmers be not realized.

Construction work at the several plants of the phosphate companies, including TVA's large mining and sintering plants, proceeds rapidly toward completion, and the work at the five million dollar activated carbon plant is under full swing.

## CHICAGO

**Fertilizer Organics Market Quiet but Steady, with Offerings Restricted. Feed Material Supply Short.**

*Exclusive Correspondence to "The American Fertilizer"*

CHICAGO, June 15, 1942.

A continued steady, though temporarily quiet, market in organics was again presented during the past fortnight. Offerings are restricted, and the uppermost question in mind of the trade is whether OPA will place a ceiling on organics, similar to that on other types of ammoniates.

Trading in materials for the feed market has slowed down owing to scant offerings. New ceilings have been issued, at which prices a good demand is noted.

Nominal prices are as follows: High grade ground fertilizer tankage, $4.00 to $4.25 ($4.86 to $5.16½ per unit N) and 10 cents; standard grades crushed feeding tankage (ceiling), $5.37 per unit of ammonia ($6.53 per unit N); blood, $5.65 to $5.75 ($6.87 to $6.99 per unit N); dry rendered tankage (ceiling), $1.21 per unit of protein, Chicago basis.

## CLEMENT JOINS WPB

Sheldon L. Clement, of Mississippi, has been appointed business analyst on fertilizers in the War Production Board. He has had experience as a county agricultural agent and in cotton estimating and marketing in Mississippi and North Carolina.

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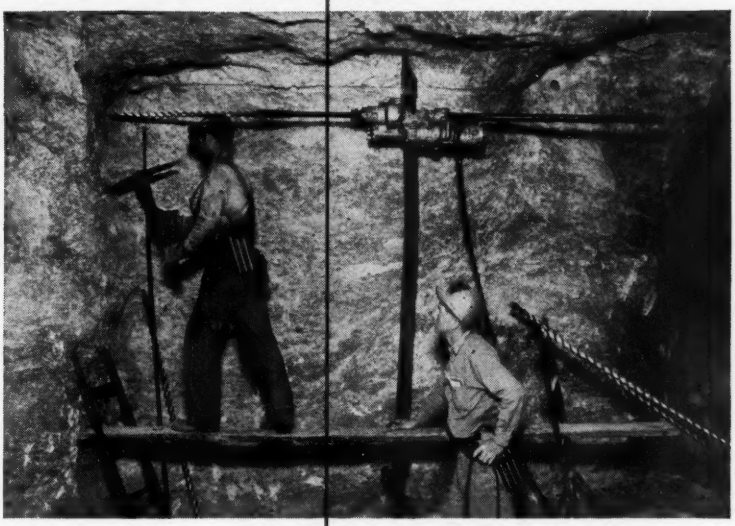

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# Pasture Notes No. 14

*Compiled by R. H. Lush, Pasture Specialist, The National Fertilizer Association*

**Alabama**

*Fertilize Lespedeza Sericea.* Lespedeza sericea does best when seeded early and fertilized with 500 pounds of superphosphate, and 200 pounds of muriate of potash per acre, or an equivalant amount of mixed fertilizer, according to the Alabama Experiment Station.

**Arkansas**

*Superphosphate Increased Feeding Value.* The use of 100 pounds of concentrated superphosphate per acre increased the yield of Korean lespedeza 960 pounds per acre on the Leavell farm, Pope County. In addition, the fertilized field produced hay superior in feeding value to that of the unfertilized field.

**Delaware**

*Fertilize Sudan Grass.* One of the best crops for overcoming midsummer pasture shortage is Sudan grass, says C. E. Phillips, assistant agronomist. One acre of Sudan grass well fertilized will provide grazing for three cows from early July until frost. Use 20 to 25 pounds seed on well prepared soil with 250 to 300 pounds of a 3-12-6 fertilizer per acre.

**Georgia**

*Potash Deficiency in Napier Grass.* The formation of irregular brown spots on the leaves and sometimes "firing" of the leaf tips and margins have been noted at Tifton as a reasonably dependable index of potassium deficiency in Napier grass. The condition is sometimes confused with eyespot disease but was completely cured with heavy applications of potash.—*Glenn W. Burton and C. L. Lefebvre, Jour. Amer. Soc. Agron. Vol. 34, No. 4, pp. 372-375, 1942.*

**Illinois**

*Pasture Worth $40 An Acre.* In feeding tests at the University of Illinois, yearling steers full fed and grazed on bluegrass pasture at night returned a profit of $25 per head and $1.33 per bushel of corn consumed. A similar lot without pasture showed only $19 profit per head and paid 98 cents a bushel for corn. Thus the night pasture was worth about $40 per acre over dry-lot feeding, figures Prof. R. R. Snapp.—*Country Gentleman, May, 1942.*

**Iowa**

*Increased Pasture Yields.* Paul Heitmann, Allamakee county, cooperated in a pasture improvement test with the Iowa Experiment Station. The plot fertilized, limed, and seeded, produced approximately four times as much feed as either the untreated plot or one only reseeded, and twice as much as one limed and reseeded.—*Capper's Farmer, April, 1942.*

**Louisiana**

*Keep on Fertilizing.* An average of four years pastures that received 350 pounds of 4-12-4 plus nitrogen in the Spring produced 58 per cent more cow days of grazing, 64 per cent more milk, and $16.05 per acre more net returns than unfertilized pastures. The phosphorus content of the pasture vegetation was also 24 per cent higher. During the fifth year the fertilized pasture produced 27 per cent more milk than the average of the four previous years.—*La. Exp. Sta. Bul. No. 341.*

*Phosphorous Doubled Yields.* The application of 36 to 48 pounds of phosphoric acid (as basic slag) per acre to 97 pastures in 23 parishes doubled the estimated carrying capacity in 1940. In 18 similarly fertilized lespedeza demonstrations the yield was increased from .7 tons to 1.6 tons hay per acre.—*La. Ext. Cir. No. 206.*

**Michigan**

*Save Seed.* In a Michigan test, a seeding of 8.1 pounds alfalfa per acre produced slightly more hay in 4 years than a seeding of 21 pounds per acre. A seeding of only 4.7 pounds produced an average of 3.54 tons an acre annually, compared to 3.71 tons annually for the 21 pound seeding. There are several factors influencing the amount of seed used, but a firm seedbed and fertility are extremely important.—*Capper's Farmer, June, 1942.*

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DRIED BLOOD

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COTTONSEED MEAL

BONE BLACK

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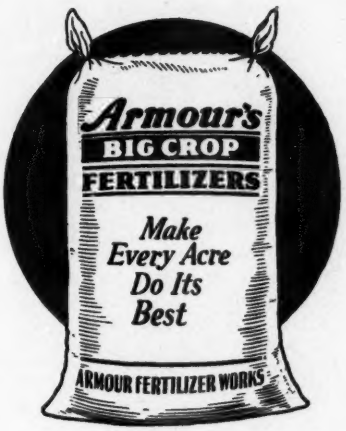


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## Chilean Nitrate Supply, 1942-43

By J. A. WOODS

*President, Chilean Nitrate Sales Corporation*

We are now at a point where we can review the situation during the past year and can take a look at the future.

In the season ending June 30, 1942, we shall have brought into the United States from Chile something over 700,000 tons of nitrate of soda. This exceeds the amount shipped here in the previous year, although sales then were a little larger, since we had a stockpile to draw from. In view of the tremendous demand for shipping, this is a real achievement. It is a result of the full cooperation given to the Chilean Nitrate Sales Corporation by the War Shipping Administration, the Department of Agriculture and the War Production Board.

The problem of shipping the nitrate from Chile to this country was complicated by the sharp increases in costs which always occur in wartime. Our cost of ocean freight has more than doubled since September, 1939. Our marine and war risk insurance is more than six times the rate in effect a year ago. In fact all expenses—handling charges in United States ports, railroad rates, wages, bags, etc.—have gone up.

Part of these 700,000 tons of Chilean nitrate was used in the manufacture of explosives and in industry; the balance was allocated to agriculture on a crop basis. These allocations were made by the War Production Board, based on recommendation of the U. S. Department of Agriculture. The Chilean Nitrate Sales Corporation had nothing to do with them. The inequities that always develop under a new system will doubtless be corrected next season in a revised program now under consideration by the Government.

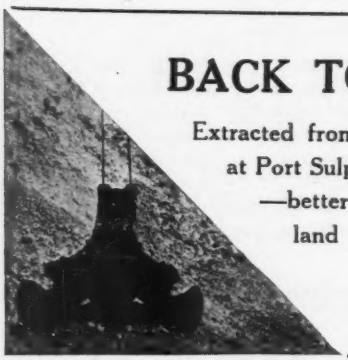
The job next year is going to be a lot bigger than it was this year. Little, if any liquid ammonia and no products from synthetic ammonia (except synthetic nitrate of soda) will be available for fertilizer manufacture. This means a loss of 100,000 tons of nitrogen for agriculture. To replace this lost tonnage, more than 600,000 additional tons of Chilean nitrate of soda will be required.

For the year beginning July 1, 1942, therefore, the amount of Chilean nitrate available for agriculture must be doubled; we shall need, as a minimum, about 1,400,000 tons, to produce the foodstuffs required by our own people and to supplement the supplies of our allies.

Shipping remains the big problem. The nitrate producers in Chile will have the nitrate on the docks whenever the ships call for it. With the wholehearted interest and cooperation of the Government, we are hopeful that enough ships will be made available, so that American agriculture, facing the greatest production challenge of its career, will have an adequate supply of nitrogen to produce the necessary food, fibre and oils for our country and its allies.

## GRADES FOR MIDDLE ATLANTIC STATES DISCUSSED

A conference of agronomists representing seven Middle Atlantic States was held at the Cosmos Club in Washington on June 5th. Those present were: Prof. E. L. Worthen, New York; Dr. Firman E. Bear, New Jersey; Dr. C. F. Noll, Pennsylvania; Prof. C. E. Phillips, Delaware; Dr. W. B. Kemp, Dr. C. H. Mahoney, Dr. R. P. Thomas, W. B. Posey, Maryland; Dr. T. B. Hutcheson, Prof. W. H. Byrne, Dr. H. H. Zimmerley, Virginia; Dr. G. G. Pohlman, West Virginia; T. E. Milliman, WPB; Dr. F. W. Parker, OPA;



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**66% — 68% — 72% — 75%**
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**Including SUL-PO-MAG**
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William F. Watkins and Dr. T. R. Moyer, U.S.D.A.; Messrs. Brand, Engle, Lodge, and Smalley of the National Fertilizer Association. The ratios and grades which have been recommended heretofore were revised as to normal crop requirements, but careful consideration was given to the grades that may be recommended in view of the nitrogen shortage both for the fall and the spring planted crops. In view of the fact that lists of grades for the various States may be made mandatory during the war period, it was the feeling of the group that the action taken would be considered tentative and subject to review by the war agencies and by the industry. Following is the list of minimum grades adopted, from which each State may select grades to be recommended in that State. In other words, the number of ratios and grades recommended in any State may be less than the total. The minimum grades tentatively selected are: 0-12-12, 0-14-7, 2-12-6, 2-12-12, 2-8-10, 3-9-6, 3-9-15, 3-12-6, 4-8-8, 4-8-12, 4-12-4, 5-10-5, 6-8-6, 6-6-8, 10-0-10, 10-5-5. The last two named are, of course, top-dressers, and the 6-6-8 will probably be recommended only for tobacco plant beds in Maryland.

### FERTILIZER ADVISORY COMMITTEE

(Continued from page 7)

contained six "suggestions," as follows:

1. The problem of the utilization of the additional vegetable meals that will be available is one of price. The present market price of such meals is approximately $4.00 per nitrogen unit higher than the price of chemical nitrogens customarily used. The mixed fertilizers which were delivered during the base period of Maximum Price Regulation No. 135 derived their nitrogen, in most cases, from chemical sources and the maximum prices of such fertilizers reflected the cost of chemical nitrogen. The necessary arrangements for price adjustments will have to be made, of couse, by the appropriate governmental agencies. The task is no easy one. It is too complex to be covered in this memorandum, but the members of this subcommittee offer their services to such agencies to assist in every possible way in meeting the problems involved.

2. ****the margin of safety is not so great as to include the advisability of conserving nitrogen consistently with the Nation's greatest good. Among possibilities that might be considered is the lowering of the nitrogen content of certain grades in certain areas.

3. Careful consideration should be given by Federal and State agronomists to the elimination of unnecessary grades. The manufacture of fertilizers containing large amounts of inert filler should be discontinued.

4. Having regard for the production and storage problems of nitrate of soda and sulphate of ammonia during the first six months of the fiscal year, the greater proportion of these materials should be allocated for mixing purposes during that period, when mixed fertilizers are usually based. Of course, during that time all top-dressing requirements should be taken care of.

5. In order that the fertilizer industry may give the greatest service to our national crop production goals, the United States Department of Agriculture is asked to give the industry the following information, in the immediate future:

(a) What ratios of fertilizer, and grades representing the same, will be needed?
(b) In what areas?
(c) At what time?
(d) In what tonnages?

6. ****no consideration of the problem would be complete which did not take into

(Continued on page 26)

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WANTED—Used Hough "Payloader," Lessman, or a Clark Tructractor. Must be in good condition and cheap. Address "540," care THE AMERICAN FERTILIZER, Philadelphia.

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**When Boron deficiencies are found, follow the recommendations of local County Agents or State Experiment Stations.**

**Information and references available on request.**

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70 PINE STREET, NEW YORK CITY
*Pioneer Producers of Muriate of Potash in America*
*See Page 4*

## LEGUMES WILL FURNISH NEEDED NITROGEN

(Continued from page 9)

1941 served to confirm the earlier results obtained at Auburn. Trials conducted on farms in various parts of Alabama resulted in an increase of approximately 20 bushels of corn per acre following kudzu. Most of these trials were on land where yields of corn were extremely low before kudzu was planted. In general, farmers have been unwilling to plant kudzu on any except the most severely eroded portions of their farms.

Where cultivation of corn was limited to that necessary for weed control, a sufficient number of living plants were left to restore the stand of kudzu by the end of the growing sesaon. Usually the stand recovered sufficiently to furnish a cutting of hay the year after corn was grown. Both recovery of stand and growth of plants were influenced by soil conditions. On areas where a considerable portion of the topsoil remained, recovery was rapid; whereas, on severely eroded. galled areas, recovery was not sufficient for a hay crop to be cut the year after corn was grown.

Lespedeza sericea has been used for soil improvement to only a limited extent, but results have shown that this deep-rooted perennial has great possibilities.

At the West Tennessee Agricultural Experiment Station at Jackson, sericea was planted in the spring of 1930 on land that normally produced 25 to 30 bushels of corn per acre. Seed or hay was harvested each year. Beginning in 1933 and each year thereafter two 1/40-acre plots of sericea stubble were turned and planted to corn. Corn has been planted on all plots each year since. Thus, it has been possible to study the immediate effect of sericea on corn yields and the residual effect through the ninth crop after sericea stubble was turned.

### Sericea Increased Yields

Results of this experiment as reported at the Southern Association of Agricultural Workers at Memphis, Tennessee, in February, 1942, by Ben P. Hazlewood, Station Superintendent, showed that the average yields in bushels per acre for the different years after sericea stubble was turned were: 9 first-year crops, 70; 8 second-year crops, 65; 7 third-year crops, 59; 6 fourth-year crops, 52; 5 fifth-year crops, 46; 4 sixth-year crops, 39; 3 seventh-year crops, 33; 2 eighth-year crops, 32; and 1 ninth-year crop, 26.

Several cases have been observed where farmers plowed areas on which lespedeza sericea was growing and planted corn. Increases in corn yields have been comparable to those obtained where corn followed kudzu. These increases have been obtained on land that had been severely eroded and was consequently in a low state of productivity when planted to sericea.

On much of the steep, eroded cropland in the South, it will be a slow and expensive process to restore a high level of soil fertility through the use of annual crops. It will be necessary to rehabilitate these soils under a cover of deep-rooted perennial legumes. After fertility has been restored under such a cover, annual legumes will be valuable in maintaining a high level of soil fertility.

In addition to soil fertility and degree of erosion, the slope and soil type have an important bearing on the kind of vegetation required to build and maintain a satisfactory level of fertility. On moderate slopes, where favorable soil types occur, annual and biennial legumes, particularly when grown in mixtures with grasses, are usually adequate for erosion control and for the maintenance of a satisfactory level of fertility, provided the land is sufficiently fertile to grow these crops satisfactorily. On steeper slopes and on soil types that are highly erodible, deep-rooted perennials will be useful in building up a satisfactory level of fertility and also for reducing erosion to a sufficient degree to maintain the soil in a productive state.

Although little has been said here about soil treatments required by the various legumes, it is generally understood by farmers and agricultural leaders that sufficient lime and fertilizer must be applied before satisfactory growth of legumes can be expected. It is necessary to give sufficient soil treatment adequate to insure satisfactory growth if an adequate supply of nitrogen is to be expected.

Lack of seeds and plants will limit the acre-

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age of many legumes during the war period unless definite steps are taken to produce and harvest the supplies needed. It is, therefore, of utmost importance that seed and plant production patches of adapted legumes be established on every farm. Although the total quantities of seeds and plants that would be required to plant the acreage of legumes needed in the South are almost inconceivably large, the quantities needed on each farm could be grown on a relatively small percentage of the cropland. Of equal importance with production will be the development of the habit of harvesting seeds and plants. When we become as conscious of the value of lespedeza, crimson clover, crotalaria, and other crop seeds as we are of the last scattered bolls of seed cotton, most farmers will find a way to get sufficient seed harvested to meet the needs of their own farms.

If we in the South take full advantage of the information that is available, we can, through the simple medium of legumes, draw upon the inexhaustible store of atmospheric nitrogen which the Master Builder of the Universe so wisely placed within the reach of all to use, but beyond the power of any to control. We may thereby produce in abundance the food and fiber crops required in the struggle to restore order in the world, and in so doing build for ourselves a safer and more profitable post-war agriculture.

## FERTILIZER INDUSTRY COMMITTEE

(Continued from page 22)

account the possibility that the actual supply of nitrogen for agriculture next year may for one reason or another fall so short of requirements that its uncontrolled distribution would fail to serve the crop production goals and involve hardship and inequities among farmers. In that event a rationing program would be necessary.

We believe that rationing to invidual farmers would be cumbersome, expensive, and generally unsatisfactory and confusing both to the industry and to the farmers. We suggest as adequate means for achieving efficient and equitable distribution of fertilizers, in the event of such shortage:

(a) The selection of a list of suitable economic analyses and ratios of mixed fertilizer for each State by its agricultural agencies and officials in cooperation with Federal agencies and officials and the fertilizer industry. Such a selection, of course, would involve consideration of the whole nitrogen situation.

(b) Allocations of nitrogen to fertilizer manufacturers by the War Production Board after consultation with the United States Department of Agriculture and the fertilizer industry.

(c) The issuance to the fertilizer industry of specific rules and regulations governing the distribution of fertilizers as to crops; as to rates of application; by areas (States, sections, counties, as necessary); and adjusted to the seasonal requirements of crops.

(d) Acceptance by the fertilizer industry of the obligation to see that such instructions are explicitly followed by its distributing forces, who will be required to make distribution in accordance with such rules and regulations.

(e) The establishment by OPA, the legal rationing authority, of County Boards to hear complaints, with authority to adjust same locally; and the right of appeal to State Boards or other proper appeals agencies. It is suggested that U.S.D.A. County and State War Boards be designated for such purposes. Such personnel would provide experienced and capable groups possessing intimate personal knowledge of local conditions.

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No mathematical calculations are necessary. You can find the figures in a few seconds with the aid of

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For Alphabetical List of Advertisers, see page 33.

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Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

**ACID EGGS**
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**ACIDULATING UNITS**
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Hydrocarbon Products Co., New York City.

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A Classified Index to Advertisers in "The American Fertilizer"

# BUYERS' GUIDE

For an Alphabetical List of all the Advertisers, see page 33

**BUCKETS—For Hoists, Cranes, etc., Clam Shell, Orange Peel, Drag line, Special; Electrically Operated and Multi Power**
Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.

**BURNERS—Sulphur**
Chemical Construction Corp., New York City.

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For an Alphabetical List of all the Advertisers, see page 33

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Stedman's Foundry and Mach. Works, Aurora, Ind.

**GARBAGE TANKAGE**
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Wellmann, William E., Baltimore, Md.

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Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.
Duriron Co., Inc., The, Dayton, Ohio.
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Monarch Mfg. Works, Inc., Philadelphia, Pa.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind

**MACHINERY—Coal and Ash Handling**
Hayward Company, The, New York City.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.

**MACHINERY—Elevating and Conveying**
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**MACHINERY—Grinding and Pulverizing**
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Stedman's Foundry and Mach. Works, Aurora, Ind.

A Classified Index to Advertisers in "The American Fertilizer"

# BUYERS' GUIDE

For an Alphabetical List of all the Advertisers, see page 33

**MACHINERY—Power Transmission**
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

**MACHINERY—Pumping**
Atlanta Utility Works, East Point, Ga.
Duriron Co., Inc., The, Dayton, Ohio.

**MACHINERY—Tankage and Fish Scrap**
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

**MAGNETS**
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

**MANGANESE SULPHATE**
McIver & Son, Alex. M., Charleston, S. C.
Tennessee Corporation, Atlanta, Ga.

**MIXERS**
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

**NITRATE OF SODA**
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
Chilean Nitrate Sales Corp., New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

**NITRATE OVENS AND APPARATUS**
Chemical Construction Corp., New York City.

**NITROGEN SOLUTIONS**
Barrett Division, The, Allied Chemical & Dye Corp., New York City.

**NITROGENOUS ORGANIC MATERIAL**
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Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
DuPont de Nemours & Co., Wilmington, Del.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
McIver & Son, Alex. M., Charleston, S. C.
Smith-Rowland Co., Norfolk, Va.
Wellmann, William E., Baltimore, Md.

**NOZZLES—Spray**
Monarch Mfg. Works, Philadelphia, Pa.

**PACKING—For Acid Towers**
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Chemical Construction Corp., New York City.

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Stedman's Foundry and Mach. Works, Aurora, Ind.

**PHOSPHATE MINING PLANTS**
Chemical Construction Corp., New York City.

**PHOSPHATE ROCK**
American Agricultural Chemical Co., New York City.
American Cyanamid Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Charleston Mining Co., Inc., Richmond, Va.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Phosphate Mining Co., The, New York City.
Ruhm, H. D., Mount Pleasant, Tenn.
Schmaltz, Jos. H., Chicago, Ill.
Southern Phosphate Corp., Baltimore, Md.
Wellmann, William E., Baltimore, Md.

**PIPE—Acid Resisting**
Duriron Co., Inc., The, Dayton, Ohio.

**PIPES—Chemical Stoneware**
Chemical Construction Corp., New York City.

**PIPES—Wooden**
Stedman's Foundry and Mach. Works, Aurora, Ind.

**PLANT CONSTRUCTION—Fertilizer and Acid**
Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.

**POTASH SALTS—Dealers and Brokers**
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

**POTASH SALTS—Manufacturers**
American Potash and Chem. Corp., New York City.
Potash Co. of America, New York City.
International Minerals & Chemical Corp., Chicago, Ill.
United States Potash Co., New York City.

**PULLEYS AND HANGERS**
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

**PUMPS—Acid-Resisting**
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.
Duriron Co., Inc., The, Dayton, Ohio.
Monarch Mfg. Works, Inc., Philadelphia, Pa.

**PYRITES—Brokers**
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., New York City.
Wellmann, William E., Baltimore, Md.

**QUARTZ**
Charlotte Chem. Laboratories, Inc., Charlotte, N. C.

**RINGS—Sulphuric Acid Tower**
Chemical Construction Corp., New York City.

**ROUGH AMMONIATES**
Bradley & Baker, New York City.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

A Classified Index to Advertisers in "The American Fertilizer"

# BUYERS' GUIDE

For an Alphabetical List of all the Advertisers, see page 33

**SCALES—Including Automatic Bagging**
Atlanta Utility Works, East Point, Ga.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

**SCRAPERS—Drag**
Hayward Company, The, New York City.

**SCREENS**
Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

**SEPARATORS—Air**
Sackett & Sons Co., The A. J., Baltimore, Md.

**SEPARATORS—Including Vibrating**
Sackett & Sons Co., The A. J., Baltimore, Md.

**SEPARATORS—Magnetic**
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

**SHAFTING**
Atlanta Utility Works, East Point, Ga.
Link-Belt Company, Philadelphia, Chicago.
Sackett & Sons Co., The A. J., Baltimore, Md.
Stedman's Foundry and Mach. Works, Aurora, Ind.

**SHOVELS—Power**
Link-Belt Company, Philadelphia, Chicago.
Link-Belt Speeder Corp., Chicago, Ill., and Cedar Rapids, Iowa.
Sackett & Sons Co., The A. J., Baltimore, Md.

**SPRAYS—Acid Chambers**
Monarch Mfg. Works, Inc., Philadelphia, Pa.

**SPROCKET WHEELS (See Chains and Sprockets)**

**STACKS**
Sackett & Sons Co., The A. J., Baltimore, Md.

**SULPHATE OF AMMONIA**
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Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Barrett Division, The, Allied Chemical & Dye Corp., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
Hydrocarbon Products Co., New York City.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Wellmann, William E., Baltimore, Md.

**SULPHUR**
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Freeport Sulphur Co., New York City.
Texas Gulf Sulphur Co., New York City.

**SULPHURIC ACID**
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Wellmann, William E., Baltimore, Md.

**SUPERPHOSPHATE**
American Agricultural Chemical Co., New York City.
Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
Huber & Company, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.
Wellmann, William E., Baltimore, Md.

**SUPERPHOSPHATE—Concentrated**
Armour Fertilizer Works, Atlanta, Ga.
International Minerals & Chemical Corporation, Chicago, Ill.
Phosphate Mining Co., The, New York City.
U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla.

**SYPHONS—For Acid**
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**TALLOW AND GREASE**
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**TANKAGE**
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Armour Fertilizer Works, Atlanta, Ga.
Ashcraft-Wilkinson Co., Atlanta, Ga.
Baker & Bro., H. J., New York City.
Bradley & Baker, New York City.
International Minerals & Chemical Corporation, Chicago, Ill.
Jett, Joseph C., Norfolk, Va.
McIver & Son, Alex. M., Charleston, S. C.
Schmaltz, Jos. H., Chicago, Ill.
Smith-Rowland, Norfolk, Va.
Wellmann, William E., Baltimore, Md.

**TANKAGE—Garbage**
Huber & Company, New York City.

**TANKS**
Sackett & Sons, Co., The A. J., Baltimore, Md.

**TILE—Acid-Proof**
Charlotte Chem. Laboratories, Inc., Charlotte, N. C

**TOWERS—Acid and Absorption**
Chemical Construction Corp., New York City.
Fairlie, Andrew M., Atlanta, Ga.

**UNLOADERS—Car and Boat**
Hayward Company, The, New York City.
Sackett & Sons Co., The A. J., Baltimore, Md.

**UREA**
DuPont de Nemours & Co., E. I., Wilmington, Del

**UREA-AMMONIA LIQUOR**
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**VALVES—Acid-Resisting**
Atlanta Utility Works, East Point, Ga.
Charlotte Chem. Laboratories, Inc., Charlotte, N. C
Duriron Co., Inc., The, Dayton, Ohio.
Monarch Mfg. Works, Inc., Philadelphia, Pa.

**WHEELBARROW (See Carts)**

**ZINC SULPHATE**
Tennessee Corporation, Atlanta, Ga.

# ALPHABETICAL LIST OF ADVERTISERS

For Classified Index, see pages 28 to 32, inclusive

American Agricultural Chemical Co., New York City ..... 3
American Cyanamid Co., New York City..—
American Limestone Co., Knoxville, Tenn..16
American Potash and Chemical Corp., New York City .....4, 23
Armour Fertilizer Works, Atlanta, Ga. ....19
Ashcraft-Wilkinson Co., Atlanta, Ga., Front cover
Atlanta Utility Works, East Point, Ga. ....—

Bagpak, Inc., New York City .....—
Baker & Bro., H. J., New York City, Back cover
Barrett Division, The, Allied Chemical & Dye Corp., New York City .....—
Bemis Bro. Bag Co., St. Louis, Mo. . ....26
Bradley & Baker, New York City .....12

Charleston Mining Co., Inc., Richmond, Va. 4
Charlotte Chemical Lab., Charlotte, N. C. ..—
Chemical Construction Corp., New York City .....23
Chilean Nitrate Education Bureau, New York City .....34

Dickerson Co., The, Philadelphia, Pa. ....18
Dougherty, Jr., E., Philadelphia, Pa. .....33
Du Pont de Nemours & Co., E. I., Wilmington, Del. .....—
Duriron Co., The, Dayton, Ohio .....—

Fairlie, Andrew M., Atlanta, Ga. .....29
Farmers Fertilizer Co., Columbus, Ohio ....34
Freeport Sulphur Co., New York City.....20

Gascoyne & Co., Inc., Baltimore, Md. .....34

Hayward Company, The, New York City ..34
Huber Co., L. W., New York City and Jersey City, N. J. .....24
Hydrocarbon Products Co., New York City.15

International Minerals & Chemical Corp., Chicago, Ill. .....21

Jeffrey Mfg. Co., The, Columbus, Ohio ....—
Jett, Joseph C., Norfolk, Va. .....34

Keim, Samuel D., Philadelphia, Pa. .....33

Link-Belt Company, Chicago, Ill. .....—

McIver & Son, Alex. M., Charleston, S. C. 25
Monarch Mfg. Works, Inc., Philadelphia, Pa. .....34

Pacific Coast Borax Co., New York City —
Phosphate Mining Co., The, New York City, 2d cover
Polk Co., R. L., Detroit, Mich. .....25
Potash Co. of America, New York City, 3d cover
Ruhm, H. D., Columbia, Tenn. .....34

Sackett & Sons Co., The, A. J., Baltimore, Md. .....26
Schmaltz, Jos. H., Chicago, Ill. .....34
Shuey & Company, Inc., Savannah, Ga. ....34
Smith-Rowland Co., Norfolk, Va. .....—
Southern Phosphate Corp., Baltimore, Md. —
Stedman's Foundry and Machine Works, Aurora, Ind. .....22
Stillwell & Gladding, New York City .....—
Synthetic Nitrogen Products Co., New York City .....—

Tennessee Corporation, Atlanta, Ga. .....—
Texas Gulf Sulphur Co., New York City..14

U. S. Phosphoric Products Division, Tennessee Corp., Tampa, Fla. .....23
United States Potash Co., New York City..17

Wellmann, William E., Baltimore, Md. ....25
Wiley & Company, Inc., Baltimore, Md. ...34

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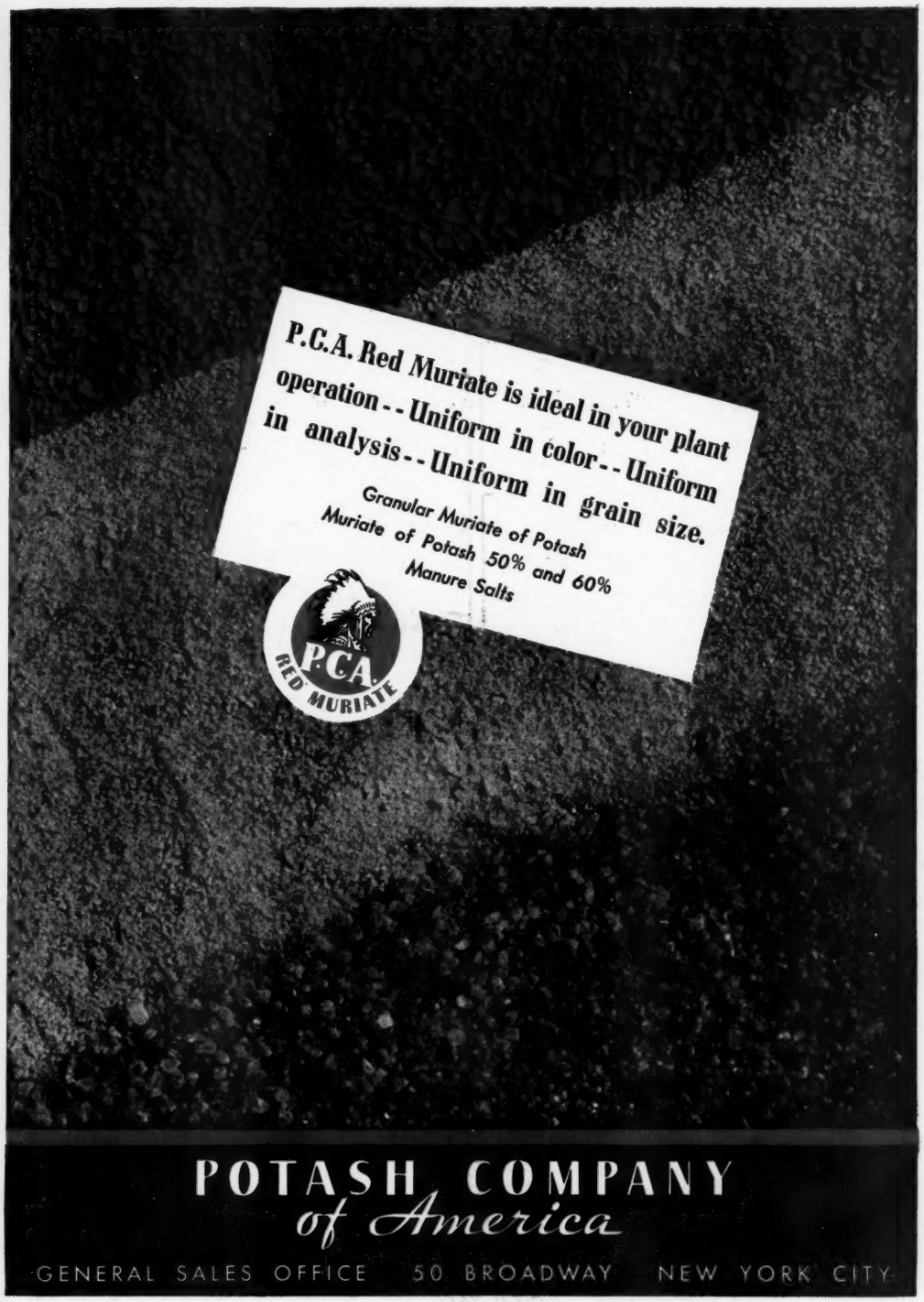
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